CPE/EE 421/521: Laboratory Assignment 1

Purpose: To study the 68000 instruction set and the Easy68K simulator; and to utilize them to write M68K assembly programs.

Getting started:
To download and learn more about Easy68K visit the following Web site:
http://www.monroeccc.edu/ckelly/EASY68K.htm
The latest version of the simulator is v3.5.
Read help and become familiar with the simulator I/O operations.

An example: The example below prints a string pointed to by the register A1.

```
*-----------------------------------------------------------
* Program Number: 0.1
* Written by    : A. Milenkovic
* Date Created  : January 2005
* Description   : Display a string pointed to by the register A1
*-----------------------------------------------------------
NL   EQU $0A
CR   EQU $0D
START ORG  $1000
LEA   STRG,A1  load address of STRG into A1
MOVE.W SIZE,D1   load D1 with the string size
MOVE.B #0,D0   load D0 with 0 (print string)
TRAP  #15
STRG dc.b 'Hello World!',CR,NL,'Hello World (again)!',CR,NL
SIZE dc.w SIZE-STRG         define the size of the string
STOP #$2000
END START
```

To learn what other students have done, check the following Web site:

Assignment: Write a program that performs the following operations on integer arrays A and B:
1: Reads in integer arrays; the program first prompts the user to enter the size (SIZE <= 20) of arrays (equal for A and B).
2: Displays both arrays in the original order
3: Displays both arrays in the reverse order
4: Displays sorted arrays in an ascending order
5: Displays MAX and MIN elements for both arrays
6: Displays an array C, where C = A+B
7: Displays an array C, where C = A*B
Your main loop of the program should provide an interface that will let the user select which one of 7 functions described above should be performed.

Bonus Assignment (not required): Write a mini calculator that will support addition, subtraction, multiplication, and division on very long integers with up to 100 decimal digits.

Submission: Check lab submission policy at the course Web site:
http://www.ece.uah.edu/~milenka/cpe421-06S/.